

Listing of the Claims:

1. (Currently Amended) A method for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique ~~having symbols~~ with associated sub-carrier frequencies, the method comprising the steps of:

determining at a first communication device sub-carrier frequencies ~~of the symbols~~ suitable for communication with the first communication device through testing for interference by sampling a radio frequency channel;

transmitting data from the first communication device to at least a second communication device wherein the data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first communication device;

determining at a second communication device sub-carrier frequencies ~~of the symbols~~ suitable for communication with the second communication device through testing for interference by sampling a radio frequency channel; and

transmitting data from the second communication device to at least the first communication device wherein the data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first and second communication devices.

2. (Currently Amended) A method according to claim 1, wherein said method further comprises:

commencing data communication from the first communication device to at least the second communication device using the sub-carrier frequencies ~~of the symbols~~, in accordance with the data received from the second communication device.

3. (Currently Amended) A method according to claim 1, wherein said data indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the

first communication device includes a bitmap.

4. (Currently Amended) A method according to claim 1, wherein said data indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first and second communication devices includes a bitmap.

5. (Currently Amended) A method according to claim 1, wherein said data indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first communication device is transmitted redundantly to the second communication device using a plurality of sub-carriers.

6. (Currently Amended) A method according to claim 1, wherein said data indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first and second communication devices is transmitted redundantly to the first communication device using a plurality of sub-carriers.

7. (Currently Amended) A method according to claim 1, wherein said step of determining at a first communication device sub-carrier frequencies ~~of the symbols~~ suitable for communication with the first communication device, includes spectrum analysis to evaluate energy levels.

8. (Currently Amended) A method according to claim 1, wherein said step of determining at a second communication device sub-carrier frequencies ~~of the symbols~~ suitable for communication with the second communication device, includes spectrum analysis to evaluate energy levels.

9. (Original) A method according to claim 1, wherein said multi-carrier modulation technique uses sub-carriers which are orthogonal to each other.

10. (Currently Amended) A method according to claim 1, wherein said step of transmitting data from the second communication device to at least the first communication device wherein the data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first and second communication devices, includes the step of transmitting an acknowledge signal to indicate sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first and second communication devices.

11. (Currently Amended) A system for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique ~~having symbols~~ with associated sub-carrier frequencies, the system comprising:

means for determining at a first communication device sub-carrier frequencies ~~of the symbols~~ suitable for communication with the first communication device through testing for interference by sampling a radio frequency channel;

means for transmitting data from the first communication device to at least a second communication device wherein the data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first communication device;

means for determining at a second communication device sub-carrier frequencies ~~of the symbols~~ suitable for communication with the second communication device through testing for interference by sampling a radio frequency channel; and

means for transmitting data from the second communication device to at least the first communication device wherein the data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first and second communication devices.

12. (Currently Amended) A system according to claim 11, wherein said system further comprises:

means for commencing data communication from the first communication device to at least the second communication device using the sub-carrier frequencies ~~of the symbols~~, in accordance with the data received from the second communication device.

13. (Currently Amended) A system according to claim 11, wherein said data indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first communication device includes a bitmap.

14. (Currently Amended) A system according to claim 11, wherein said data indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first and second communication devices includes a bitmap.

15. (Currently Amended) A system according to claim 11, wherein said data indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first communication device is transmitted redundantly to the second communication device using a plurality of sub-carriers.

16. (Currently Amended) A system according to claim 11, wherein said data indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first and second communication devices is transmitted redundantly to the first communication device using a plurality of sub-carriers.

17. (Currently Amended) A system according to claim 11, wherein said means for determining at a first communication device sub-carrier frequencies ~~of the symbols~~

suitable for communication with the first communication device, includes means for performing a spectrum analysis to evaluate energy levels.

18. (Currently Amended) A system according to claim 11, wherein said means for determining at a second communication device sub-carrier frequencies ~~of the symbols~~ suitable for communication with the second communication device, includes means for performing spectrum analysis to evaluate energy levels.

19. (Original) A system according to claim 11, wherein said multi-carrier modulation technique uses sub-carriers which are orthogonal to each other.

20. (Currently Amended) A system according to claim 11, wherein said data indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first and second communication devices is an acknowledge signal.

21. (Currently Amended) A system for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique ~~having symbols~~ with associated sub-carrier frequencies, the system comprising:

a first receiver for receiving communication at a first communication device;

a first signal processor for determining at the first communication device sub-carrier frequencies ~~of the symbols~~ suitable for communication with the first communication device;

the first receiver and the first processor configured for determining sub-carrier frequencies suitable for communication with the first communication device through testing for interference by sampling a radio frequency channel;

a first transmitter for transmitting data from the first communication device to

at least a second communication device wherein the data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first communication device;

a second receiver for receiving communications at a second communication device;

a second signal processor for determining at the second communication device sub-carrier frequencies ~~of the symbols~~ suitable for communication with the second communication device;

the second receiver and the second processor configured for determining sub-carrier frequencies suitable for communication with the second communication device through testing for interference by sampling a radio frequency channel; and

a second transmitter for transmitting data from the second communication device to at least the first communication device wherein the data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first and second communication devices.

22. (Currently Amended) A system according to claim 21, wherein the first transmitter commences data communication from the first communication device to at least the second communication device using the sub-carrier frequencies ~~of the symbols~~, in accordance with the data received from the second communication device.

23. (Currently Amended) A system according to claim 21, wherein said data indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first communication device includes a bitmap.

24. (Currently Amended) A system according to claim 21, wherein said

data indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first and second communication devices includes a bitmap.

25. (Currently Amended) A system according to claim 21, wherein said data indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first communication device is transmitted redundantly to the second communication device using a plurality of sub-carriers.

26. (Currently Amended) A system according to claim 21, wherein said data indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first and second communication devices is transmitted redundantly to the first communication device using a plurality of sub-carriers.

27. (Original) A system according to claim 21, wherein said system further comprises a first spectrum analyzer to evaluate energy levels at the first communication device.

28. (Original) A system according to claim 21, wherein said system further comprises a second spectrum analyzer to evaluate energy levels at the second communication device.

29. (Original) A system according to claim 21, wherein said multi-carrier modulation technique uses sub-carriers which are orthogonal to each other.

30. (Currently Amended) A system according to claim 21, wherein said second transmitter transmits an acknowledge signal to indicate sub-carrier frequencies ~~of the~~

~~symbols~~-suitable for data communication with the first and second communication devices.

31. (Currently Amended) A method for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique ~~having symbols~~ with associated sub-carrier frequencies, the method comprising the steps of:

determining at a first communication device sub-carrier frequencies ~~of the symbols~~ suitable for communication with the first communication device through testing for interference by sampling a radio frequency channel; and

transmitting data from the first communication device to at least a second communication device wherein the data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first communication device.

Claims 32-34. (Canceled)

35. (Currently Amended) A method for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique ~~having symbols~~ with associated sub-carrier frequencies, the method comprising the steps of:

receiving data at a second communication device, wherein said data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with at least a first communication device;

determining at the second communication device sub-carrier frequencies ~~of the symbols~~-suitable for communication with the second communication device through testing for interference by sampling a radio frequency channel; and

transmitting data from the second communication device to at least the first

communication device wherein the data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with at least the first and second communication devices.

36. (Currently Amended) A method according to claim 35, wherein said method further comprises:

commencing data communication from the first communication device to at least the second communication device using the sub-carrier frequencies ~~of the symbols~~, in accordance with the data received from the second communication device.

37. (Currently Amended) A system for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique ~~having symbols~~ with associated sub-carrier frequencies, the system comprising:

means for determining at a first communication device sub-carrier frequencies ~~of the symbols~~ suitable for communication with the first communication device through testing for interference by sampling a radio frequency channel; and

means for transmitting data from the first communication device to at least a second communication device wherein the data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first communication device.

Claims 38 and 39. (Canceled)

40. (Currently Amended) A system for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique ~~having symbols~~ with associated sub-carrier frequencies, the system comprising:

means for receiving data at a second communication device, wherein said data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with at

least a first communication device;

means for determining at the second communication device sub-carrier frequencies ~~of the symbols~~ suitable for communication with the second communication device through testing for interference by sampling a radio frequency channel; and

means for transmitting data from the second communication device to at least the first communication device wherein the data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with at least the first and second communication devices.

41. (Currently Amended) A system according to claim 40, wherein said system further comprises:

means for commencing data communication from the first communication device to at least the second communication device using the sub-carrier frequencies ~~of the symbols~~, in accordance with the data received from the second communication device.

42. (Currently Amended) A system for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique ~~having symbols~~ with associated sub-carrier frequencies, the system comprising:

a first receiver for receiving communication at a first communication device;

a first signal processor for determining at the first communication device sub-carrier frequencies ~~of the symbols~~ suitable for communication with the first communication device through testing for interference by sampling a radio frequency channel; and

a first transmitter for transmitting data from the first communication device to at least a second communication device wherein the data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with the first communication device.

43. (Original) A system according to claim 42, wherein said system further comprises:

a second receiver for receiving communications at a second communication device;

a second signal processor for determining at the second communication device sub-carrier frequencies ~~of the symbols~~ suitable for communication with the second communication device; and

a second transmitter for transmitting data from the second communication device to at least the first communication device wherein the data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with at least the first and second communication devices.

Claims 44 and 45. (Canceled)

46. (Currently Amended) A system for selecting sub-carrier frequencies for communication between at least two communication devices using a multi-carrier modulation technique ~~having symbols~~ with associated sub-carrier frequencies, the system comprising:

a second receiver for receiving communications at a second communication device, wherein said communication includes data indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with at least a first communication device;

a second signal processor for determining at the second communication device sub-carrier frequencies ~~of the symbols~~ suitable for communication with the second communication device through testing for interference by sampling a radio frequency channel; and

a second transmitter for transmitting data from the second communication

device to at least the first communication device wherein the data is indicative of sub-carrier frequencies ~~of the symbols~~ suitable for data communication with at least the first and second communication devices.

Claims 47 - 49. (Canceled)

50. (New) The method of claim 31, the determining step further comprising:
converting sampled data to the frequency domain; and
evaluating energy levels of each sub-carrier frequency;
wherein any sub-carrier frequency having an energy level above a predetermined threshold is determined to be an unusable frequency.